Contents

Preface ix

Organizers x

Acknowledgments x

Photograph xi

Participants and Contributors xiii

TAXONOMY AND PHYLOGENY

Plathelminthes or Platyhelminthes?
by U. Ehlers & B. Sopott-Ehlers 1–2

Two peculiar new genera of Typhloplanoida from the Western Indian Ocean
by G.G. de Clerck & E.R. Schockaert 3–9

Phylogenetic relationships within the *Archiloa* genus complex (Proseriata, Monocelididae)
by P.M. Martens & M.C. Curini-Galletti 11–14

An elaboration of the evolutionary morphological basis for the systematics of the Plathelminthes
by Y.V. Mamkaev 15–19

The basic organization of the Plathelminthes
by U. Ehlers 21–26

Aspects of the phylogeny of Platyhelminthes based on 18S ribosomal DNA and protonephridial ultrastructure
by K. Rohde, A.M. Johnson, P.R. Baverstock & N.A. Watson 27–35

5S rRNA sequences of 12 species of flatworms: implications for the phylogeny of the Platyhelminthes
by B.I. Joffe, K.M. Valiejo Roman, V.Y. Birstein & A.V. Troitsky 37–43

BIOGEOGRAPHY AND GENETICS

Brackish-water Plathelminthes from the Faroe Islands
by P. Ax 45–47

Platyhelminths as paleogeographical indicators
by R. Sluys 49–53

Taxonomy and geographical distribution of *Dugesia japonica* and *D. ryukyuensis* in the Far East
by M. Kawakatsu, I. Oki & S. Tamura 55-61

Geographical distribution of *Phagocata vivida* in the Far East
by M. Kawakatsu, O.A. Timoshkin, N.A. Porfirjeva & M. Takai 63–70

Chromosomes of *Temnocephala minor*, an ectosymbiotic turbellarian on Australian crayfish found in Kagoshima Prefecture, with karyological notes on exotic turbellarians found in Japan
by I. Oki, S. Tamura, M. Takai & M. Kawakatsu 71–77

A review of chromosomal variation in *Dugesia japonica* and *D. ryukyuensis* in the Far East
by S. Tamura, I. Oki & M. Kawakatsu 79–84
Chromosome bands in freshwater triclads
by R. Canovai, G. Stocchino, I. Privitera, A. Alberti, M. Pala & L. Galleni 85–90

ECOLOGY AND BEHAVIOUR
Where Turbellaria? Concerning knowledge and ignorance of marine turbellarian ecology
by P.J.S. Boaden 91–99
Stylochus tauricus, a predator of the barnacle *Balanus improvisus* in the Black Sea
by G.-V. Murina, V. Grintsov & A. Solonchenko 101–104
Predation behaviour of land planarians
by R.E. Ogren 105–111
The influence of body size on immediate reproductive success in *Dugesia gonocephala* (Tricladida, Paludicola)
by C. Vreys & N. Michiels 113–117
Reproductive behaviour in *Dugesia gonocephala* (Tricladida, Paludicola)
by C. Vreys & N. Michiels 119

ANATOMY AND ULTRASTRUCTURE
The anatomy of *Microplana termitophaga* from Zimbabwe and Kenya: confirmation of the subfamily and genus
by H.D. Jones, M.S. Cumming & J.H. Kennaugh 121–126
Comparison of the nervous system of the rhabdocoel *Mesostoma ehrenbergii* with that of the polyclad *Notoplana acticola*
by H. Koopowitz, M. Elvin & T. Bae 127–133
Glyoxylic acid induced fluorescence in the nervous system of *Gyratrix hermaphroditus* (Kalyptorhynchia, Polycystididae)
by E.A. Kotikova 135–139
The importance of the fixation of colour, pattern and form in tropical Pseudocerotidae (Platyhelminthes, Polycladida)
by L.J. Newman & L.R.G. Cannon 141–143
Structure and maintenance of the epidermis in *Friedmaniella* sp. (Prolecithophora)
by I.M. Drobysheva & Y.V. Mamkaev 145–150
A scanning electron microscope study of *Craspedella* sp. from the branchial chamber of redclaw crayfish, *Cherax quadricarinatus*, from Queensland, Australia
by K.B. Sewell & L.R.G. Cannon 151–158
An electron microscope study of primary epidermis formation in freshwater planarian embryos
by T. Sakurai & S. Ishii 159
Ultrastructure of the epidermis of *Meara stichopi* (Platyhelminthes, Nemertodermatida) and associated extra-epidermal bacteria
by K. Lundin & J. Hendelberg 161–165

Ultrastructure and differentiation of ciliated pits in *Microstomum lineare* (Turbellaria, Macrostomida)
by I.E. Palmberg 167
Ultrastructure of the ciliary pits in the *Geocentrophora* group (Platyhelminthes, Lecithoepitheliata)
by O.I. Raikova, M. Reuter, I. Böckerman & O.A. Timoshkin 169–175
A new type of photoreceptor in *Anthopharynx sacculipenis* (Plathelminthes, Solenopharyngidae)
by B. Sopott-Ehlers 177–182
Ultrastructure of the nerve cells and sensilla of *Geocentrophora baltica* (Platyhelminthes, Lecithoepitheliata) and the surface sensilla in the *Geocentrophora* group
by I. Böckerman, O.I. Raikova, M. Reuter & O. Timoshkin 183–188
Structure and function of the reticular cell in the planarian *Dugesia dorotocephala*
by M. Morita 189–196
Fine structure of the astrocyte-like neuroglial cell in the planarian *Dugesia dorotocephala*
by M. Morita & J.B. Best 197
Ultrastructural and cytochemical studies of the female gonad of *Prorhynchus* sp. (Platyhelminthes, Lecithoepitheliata)
by A. Falleni, P. Lucchesi & V. Gremigni 199–206
The ultrastructure of the germarium in some Rhabdocoela
by P. Lucchesi, A. Falleni & V. Gremigni 207–212
Ultrastructure of oncospheral envelopes in Hymenolepidids (Cestoda) with aquatic life cycles
by L. Chomicz, Z. Swiderski & A. Czubaj 213–216

DEVELOPMENT AND REGENERATION

What studies of turbellarian embryos can tell us about the evolution of developmental mechanisms
by B.C. Boyer 217–222
Cellular succession in the epithelium lining the pharyngeal cavity of planarians
by S. Ishii 223–224
Differentiation of the body wall musculature in *Macrostomum* and *Hoploplana* (Turbellaria, Platyhelminthes)
by R.M. Rieger, W. Salvenmoser, D. Reiter & B.C. Boyer 225
Autoradiographic studies of spermatogenesis in *Dugesia bengalensis*, Kawakatsu
by A.K. Aditya & P.N. Ghosh 227
Never ending growth and a growth factor. II. Immunocytochemical evidence for the presence of epidermal growth factor in a tapeworm
by M.K.S. Gustafsson, K. Eriksson & A. Hydén 229–233
TCEN-49, a monoclonal antibody that identifies a central body antigen in the planarian *Dugesia (Girardia) tigrina*. Implications for pattern formation and positional signalling mechanisms
by D. Bueno, L. Espinosa, M.A. Soriano, E. Batlle, J. Baguñá & R. Romero 235–240
Localization of the antigen for the monoclonal antibody ② 9F11-B-E_4 and interspecific cross-reaction in the freshwater triclads
by S. Ishida, M. Iida, H. Takahashi & Y. Sato 241–246

Regulation factor for planarian regeneration
by T. Shinozawa, S. Shiozaki, M. Ezaki, H. Fujino, T. Tanaka & T. Saheki 247–253
Preparation of monoclonal antibodies against planarian organs and the effect of fixatives
by T. Shinozawa, H. Kawarada, K. Takezaki, H. Tanaka, & K. Inoue 255–257
Abnormality in the fissioning control of a strain of asexual *Dugesia dorotocephala* found near Fort Collins, Colorado
by J.B. Best 259–260
Regenerative and reproductive capacities of the fissiparous planarian *Dugesia tahitiensis*
by R. Peter 261
TCAV-1, a monoclonal antibody specific to epithelial pharyngeal cells in the planarian *Dugesia (Girardia) tigrina*. Application to pattern formation of the pharynx during regeneration
by D. Bueno, E. Batlle, M.A. Soriano, L. Espinosa, J. Baguñá & R. Romero 263–264
Restitution bodies from planarian cell suspensions: formation and survival in an isotonic culture medium
by R. Peter 265
Separation of planarian neoblasts based on density gradient centrifugation
by W. Schürmann & R. Peter 267

GENES AND SEQUENCES
The freshwater planarian *Dugesia (G.) tigrina* contains a great diversity of homeobox genes
by E. Saló, A.M. Muñoz-Mármol, J.R. Bayascas-Ramirez, J. Garcia-Fernàndez, A. Miralles, A. Casali, M. Corominas & J. Baguñá 269–275
cDNA cloning and partial sequencing of homeobox genes in *Dugesia japonica*
by H. Orii, T. Miyamoto, K. Agata & K. Watanabe 277–279
Sequence analysis and expression studies of a collagen cDNA in *Dyphillobothrium dendriticum* (Cestoda)
by K.A. Karlstedt, M.H. Wahlberg, A.J. West & G.I.L. Paatero 281
Sequence analysis of an actin isoform in the flatworm *Diphyllobothrium dendriticum* (Cestoda)
by M.H. Wahlberg, K.A. Karlstedt & G.I.L. Paatero 283

NEUROPHYSIOLOGY
GABA in the nervous system of the planarian *Polycelis nigra*
by K. Eriksson, P. Panula & M. Reuter 285–289
An immunocytochemical method for histamine: application to the planarians
by P. Panula, K. Eriksson, M. Gustafsson & M. Reuter 291–295
Neuropeptide F: a ubiquitous invertebrate neuromediator?
by A.G. Maule, D.W. Halton & C. Shaw 297–303
The pattern of neuropeptide F and RF-amide in two tapeworms
by I. Elo, A.G. Maule, M. Grahn, C. Shaw, M.K.S. Gustafsson & D.W. Halton 305–306
Antigenicity to neuropeptide F (NPF) in *Stenostomum leucops* and *Microstomum lineare*
by M. Grahn, A.G. Maule, I. Elo, C. Shaw, M. Reuter & D.W. Halton 307–308
Flatworm neuropeptides – present status, future directions
by I. Fairweather & P.J. Skuce 309–316